U.S. Environmental Protection Agency, Region 2

Chemical Leaman Tank Lines Superfund Site Public Meeting

Logan Township Municipal Building

July 20, 2009

Agenda

Introduction……Natalie Loney, EPA
and Overview of Superfund

Site Overview and History……Theresa Hwilka, EPA

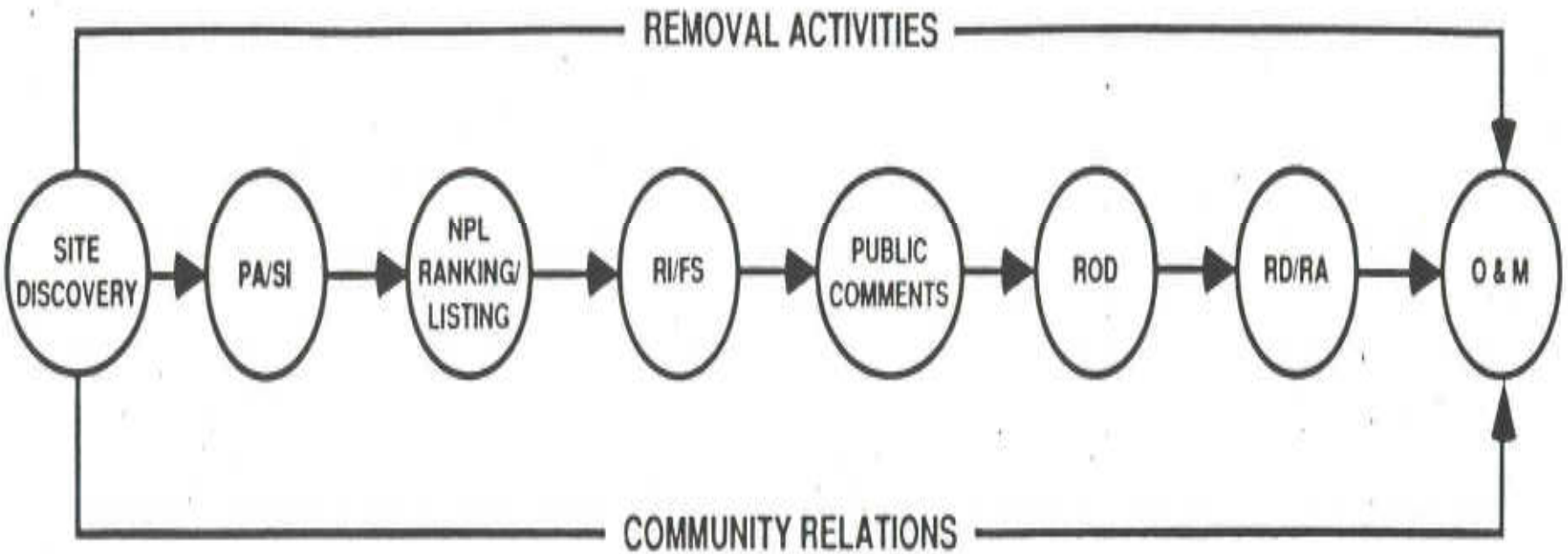
Operable Unit Overview……Theresa Hwilka, EPA

OU2 Investigations……Theresa Hwilka, EPA

Feasibility Study Treatment Technologies, Alternatives,
and the Preferred Alternative ……Theresa Hwilka, EPA

Questions

SUPERFUND REMEDIAL PROCESS



Site Overview

- CLTL is an active tanker truck washing terminal, comprised of 38.5 acres, located in Logan Township, Gloucester County, NJ
- Bordered to the North by Conrail rail line, to the East by Cedar Swamp, to the South by Moss Branch Creek and adjacent wetlands and to the West by Pierson Materials, Inc. sand pits.
- Zoned Light Industrial
- Land use in the vicinity of the Site is residential, industrial and agricultural.
- Residences located in the vicinity of the Site are connected to the public water supply.

SITE LOCATION MAP
Chemical Leaman Tank Lines Superfund Site, Operable Unit 2
Bridgeport, New Jersey

Site History

- 1961: Facility operations began
- Prior to 1975: Wastewater generated from the washing and rinsing activities was discharged on-site
- 1980-1981: Investigations by NJDEP documented the presence of VOCs, SVOCs and metals in Site groundwater.
- Contamination of Site soils and adjacent wetland area
- VOCs were the primary contaminants of concern
- September 1984: EPA placed the Site on the National Priorities List (NPL)

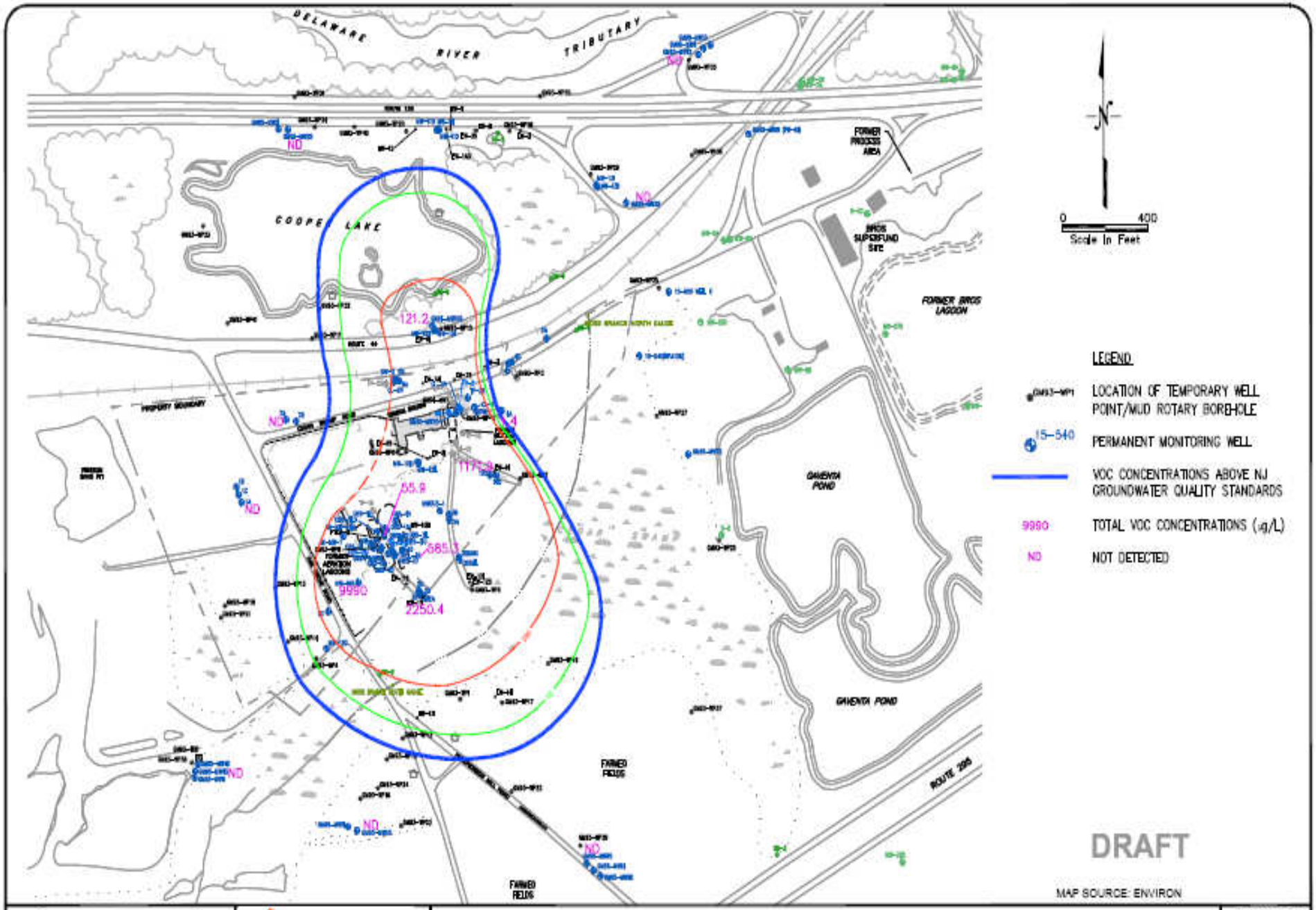
Site History (cont.)

- 1985: EPA issued an Administrative Consent Order (AOC) for the Potentially Responsible Party (PRP) to perform the Site investigation and cleanup activities
- EPA divided the Site into three Operable Units (OUs) for the purpose of Site cleanup:
  - OU1 – Addresses remediation of contaminated groundwater
  - OU2 – Addresses the remediation of contaminated source areas to groundwater contamination
  - OU3 – Addresses the remediation of contaminated wetlands at the Site

OU1 Overview

- 1990: Remedial Investigation for groundwater was completed

- Groundwater Plume
  - Approximately 0.7 miles long by 0.3 miles wide
  - Primary Contaminants of Concern (most prevalent, toxic)
    - VOCs - DCE, TCE, PCE, and vinyl chloride



ENVIRON

DRAFTED BY: BTW/CRP | DATE: 1/21/08

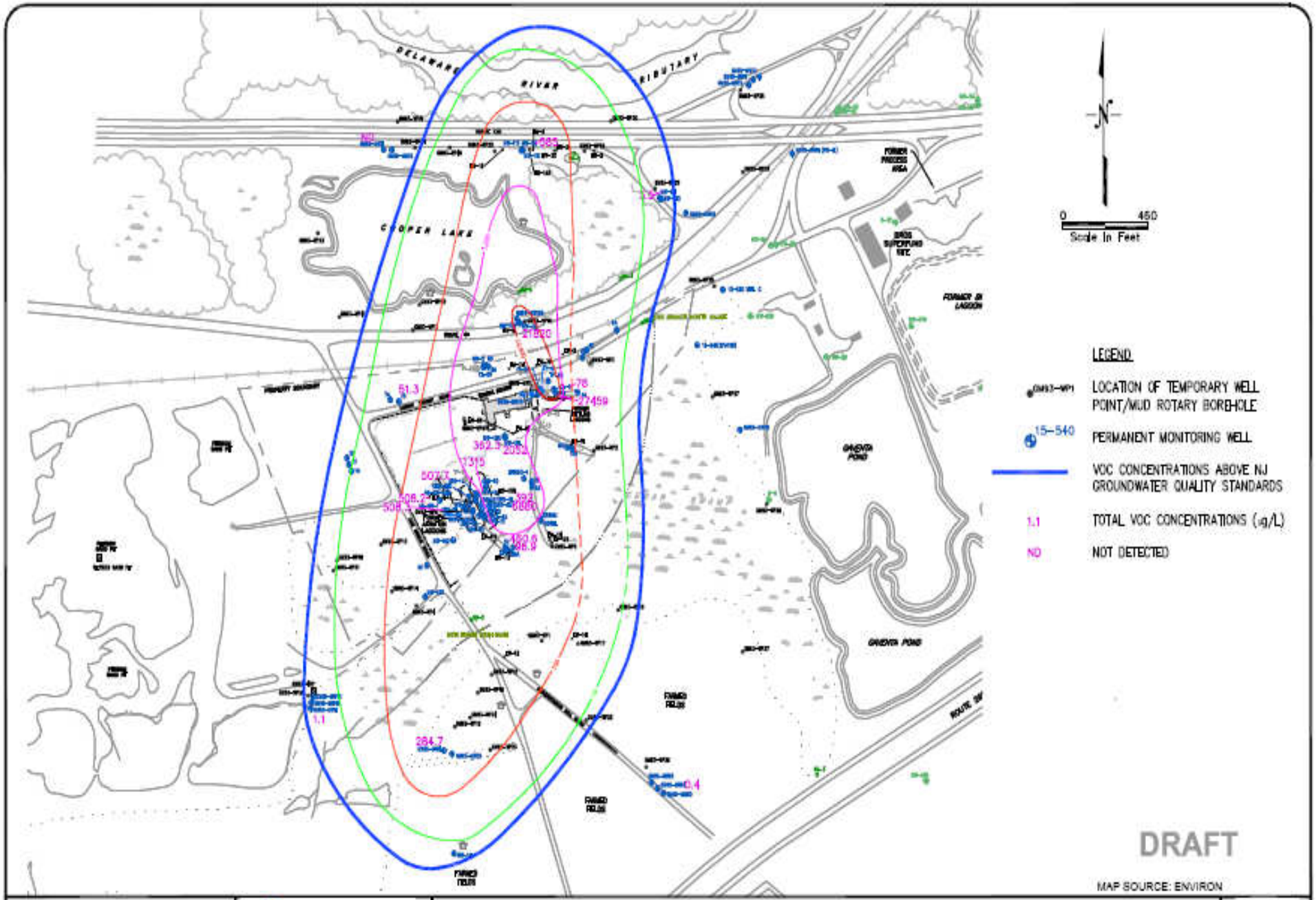
Shaw Shaw Environmental, Inc.
111 Howard Boulevard, Suite 110
Mt. Arlington, NJ 07856

LATERAL EXTENT OF VOC PLUME IN SHALLOW ZONE

CLTL SUPERFUND SITE
BRIDGEPORT, NEW JERSEY

FIGURE 1.3

7901B001



ENVIRON

DRAFTED BY: KPW/CRP | DATE: 6-15-07

Shaw Shaw Environmental, Inc.
111 Howard Boulevard, Suite 110
Mt. Arlington, NJ 07856

LATERAL EXTENT OF VOC PLUME IN INTERMEDIATE ZONE

CLTL SUPERFUND SITE
BRIDGEPORT, NEW JERSEY

FIGURE 1.4

765189c002

OU1 Overview

- September 28, 1990: EPA issued a Record of Decision (ROD)
  - Remedial Action Objective: Restore aquifer to NJDEP Drinking Water Standards
  - Selected Remedy: Construct a groundwater extraction and treatment plant ("pump & treat")
- 1991: CLTL entered into a Consent Decree to perform Remedial Design and Remedial Action of the selected remedy

OU1 Overview (cont.)

- 1991-1997: Remedial Design of the selected remedy performed
  - 24 extraction wells, 545 gpm (shallow, intermediate and deep)
  - 3 mile pipeline; discharge to the Delaware River
- 1998: PRP approached EPA with a request to modify the remedial design
- 2004: EPA approves the modified groundwater treatment plan design
  - 20 extraction wells, 230 gpm (shallow and intermediate zones)
- 2005: EPA issues an Explanation of Significant Differences (ESD) for discharge of treated groundwater
- 2005-2007: Completed construction of the groundwater treatment plant

OU3 Overview

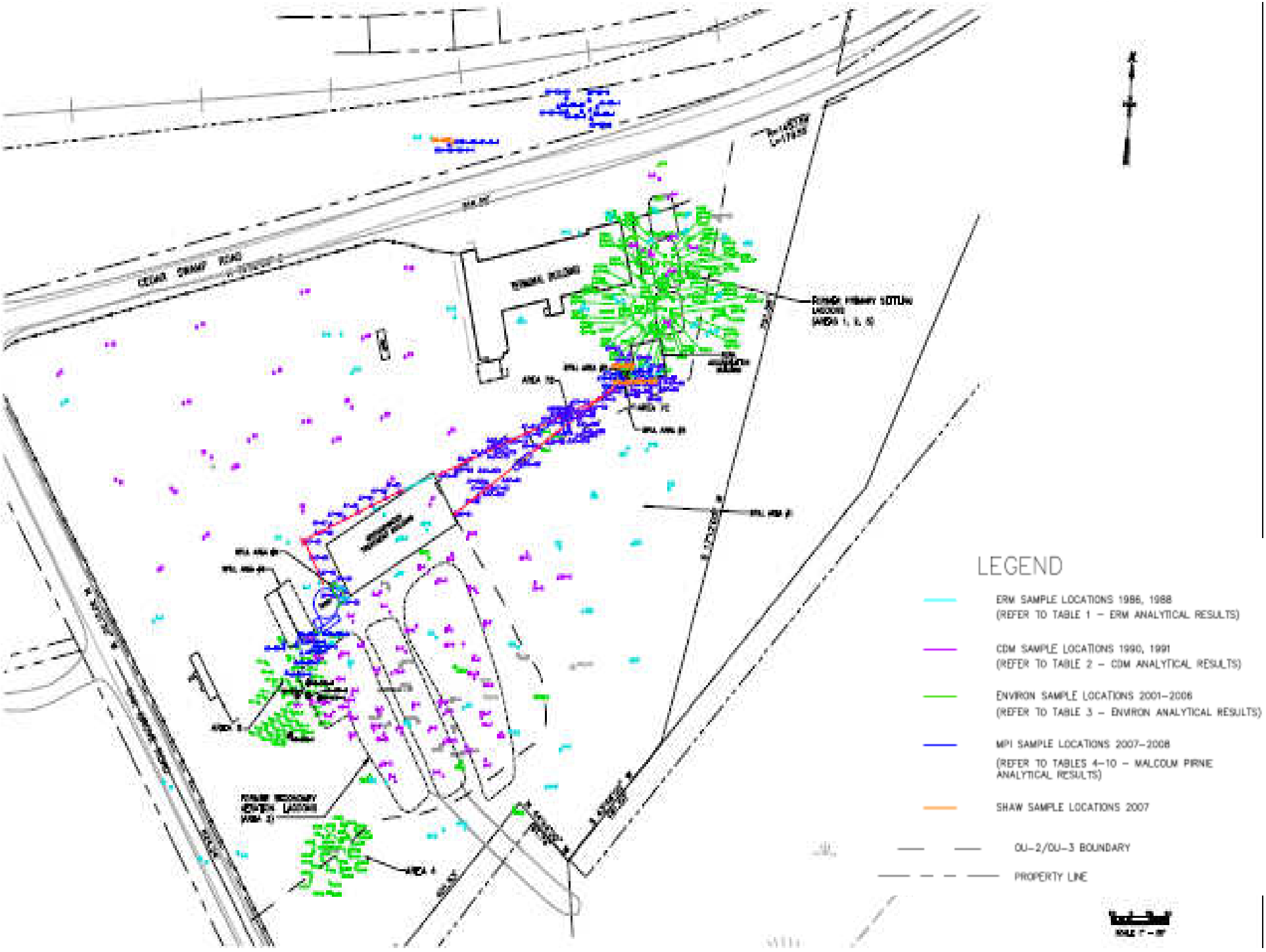
- July 1993: Completed remedial investigation
- October 1993: EPA issued a ROD for OU3 (Excavation and Restoration)
- September 1998: EPA issued an Administrative Order to the PRP for the performance of the RD and implementation of wetlands remediation
- 2006: Completed excavation of ~7,500 cu yds of contaminated sediments and soils; wetlands restoration activities; and construction of a berm
- 2007: Implemented erosion and storm water run-off control measures with the construction of a low gradient, aggregate-lined swale
- Ongoing wetlands monitoring

OU2 Overview

- OU2 was originally defined as soils primarily located around the former settling and aeration lagoons

- The scope of OU2 was expanded to include source areas to groundwater contamination, including unsaturated and saturated soils as well as Non-Aqueous Phase Liquid (NAPL)

- Four phases of investigations were conducted for OU2 to characterize the nature and extent of source areas within OU2 boundaries.

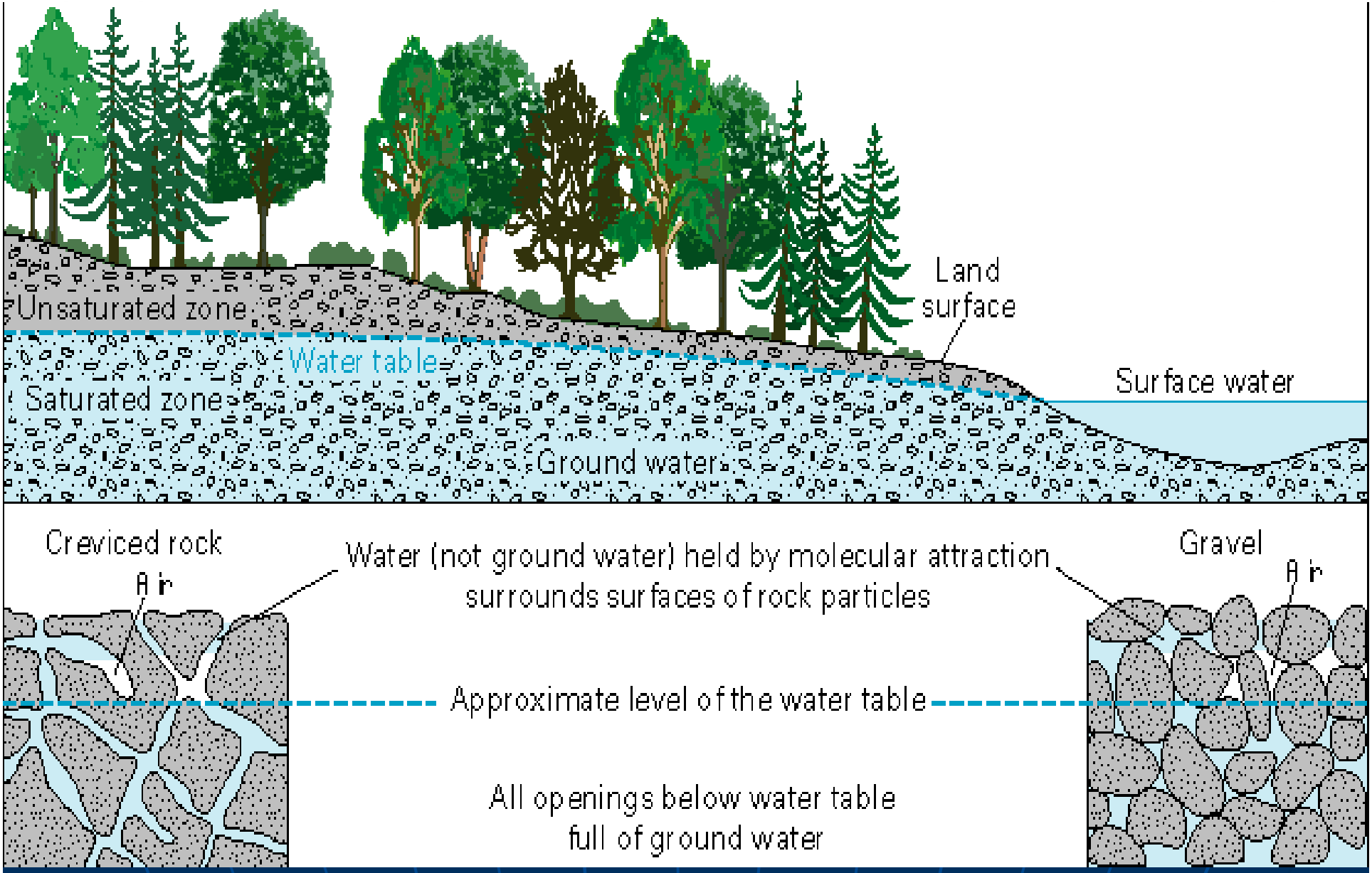

LEGEND
ERM SAMPLE LOCATIONS 1986, 1988
(REFER TO TABLE 1 – ERM ANALYTICAL RESULTS)
CDM SAMPLE LOCATIONS 1990, 1991
(REFER TO TABLE 2 – CDM ANALYTICAL RESULTS)
ENVIRON SAMPLE LOCATIONS 2001–2006
(REFER TO TABLE 3 – ENVIRON ANALYTICAL RESULTS)
MPI SAMPLE LOCATIONS 2007–2008
(REFER TO TABLES 4–10 – MALCOLM PIRNIE ANALYTICAL RESULTS)
SHAW SAMPLE LOCATIONS 2007
OU–2/OU–3 BOUNDARY
PROPERTY LINE

OU2 Investigations

- OU2 RI investigations evaluated both soil and groundwater data and included investigations of operational spill areas that occurred between 2007 and 2008

- Identified highly contaminated source areas
  - Unsaturated Soils (0-7ft bgs)
  - NAPL and associated saturated soils (2-20 ft bgs)
  - Saturated soils in the intermediate groundwater zone (25-95 ft bgs)

- Primary Contaminants of Concern
  - VOCs: DCE, TCE, PCE
  - SVOCs: naphthalene and phthalates



This figure is not an actual depiction of the Chemical Leaman Tank Lines Superfund Site. It serves to illustrate the various zones of saturation. The figure was taken from the web from the following address: www.fayettecountygroundwater.com

Human Health Risk Assessment

- Evaluates current and future cancer risks and non-cancer health hazards
- Evaluated data from 0-10 ft bgs for all of the AOCs and Spill Areas identified during the OU2 RI

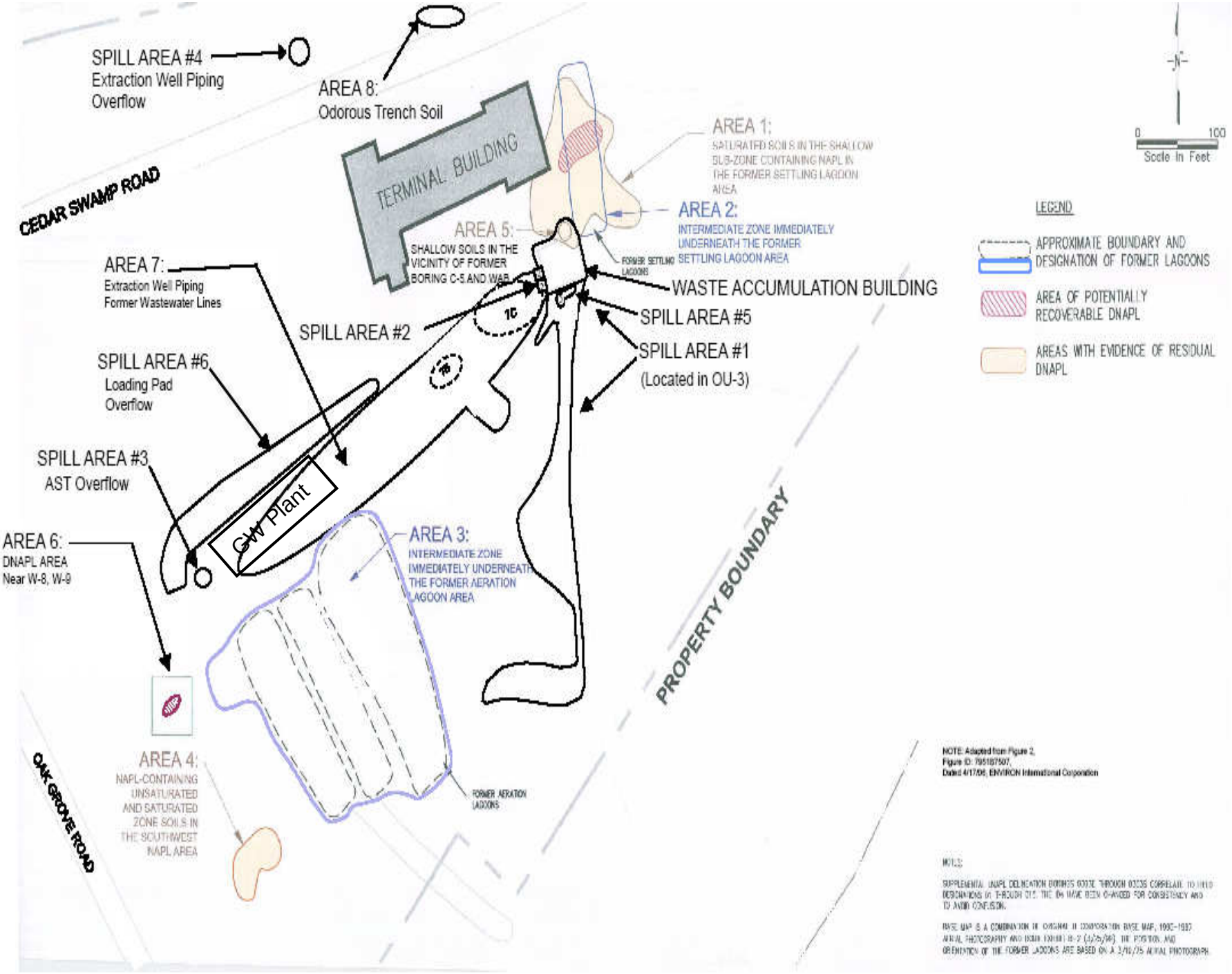
<u>Exposure Pathways Based on Current and Likely Future Land Use</u>

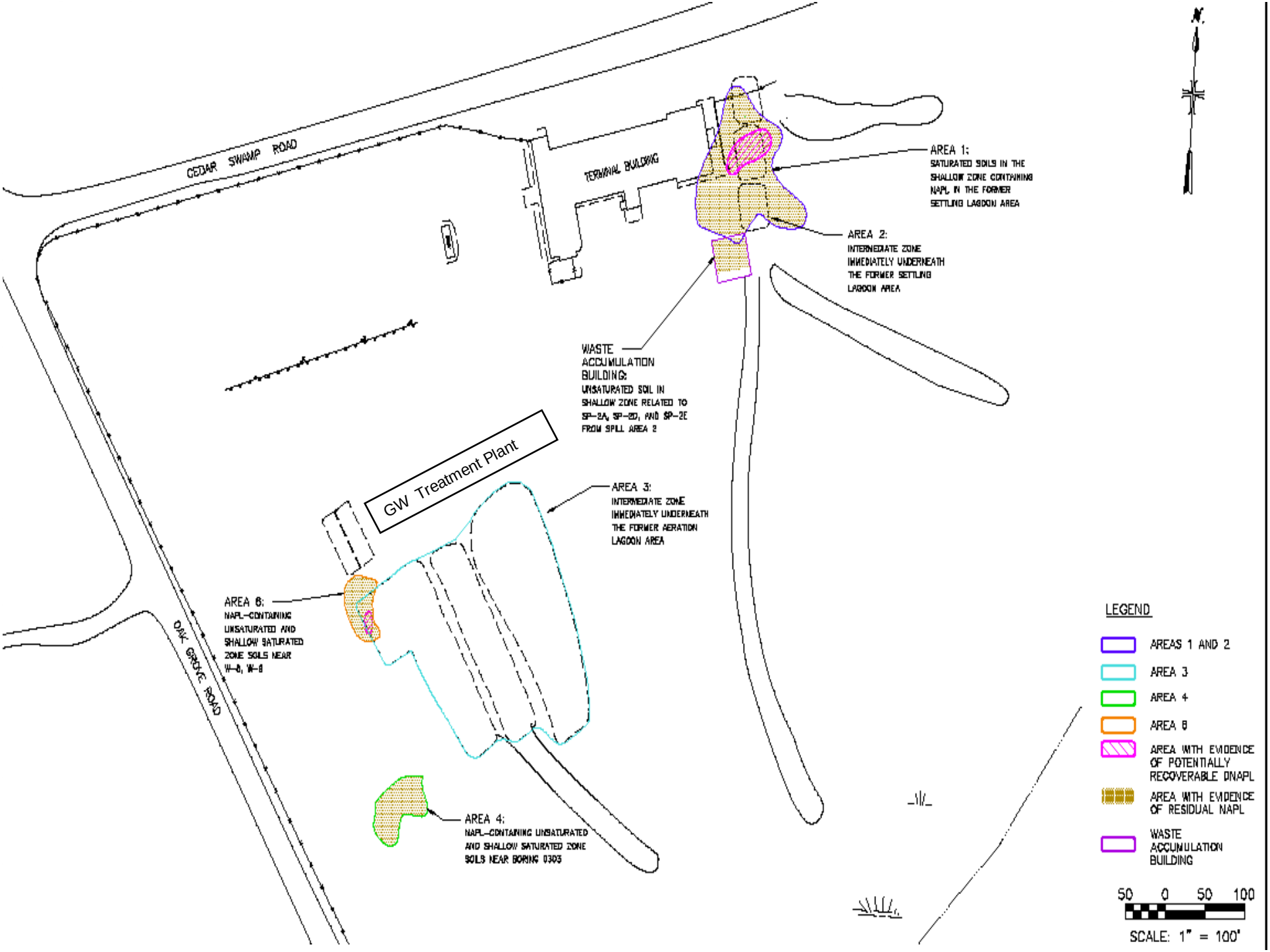
- Outdoor site workers
- Trespassers
- Off-site residents
- Construction/utility workers

Human receptor populations were also evaluated under a hypothetical, future site redevelopment scenario including construction workers and off-site residents.

Human Health Risk Assessment Conclusions

- Areas posing a human health risk exceeding the Superfund risk range include Spill Areas 2 and 5 and Areas 7 and 8. These areas were very limited in size and extent (shallow soils) of contamination and are therefore being addressed by the PRP, with EPA oversight, in a separate removal action.
- The remaining areas are not posing a human health risk; however, they contain highly elevated levels of contaminants which are significant sources to groundwater contamination.
- Unacceptable risks are posed by groundwater and are being addressed as part of ongoing OU1 cleanup activities


SPILL AREA #4
Extraction Well Piping
Overflow
AREA 8:
Odorous Trench Soil
TERMINAL BUILDING
CEDAR SWAMP ROAD
AREA 1:
SATURATED SOILS IN THE SHALLOW SUB-ZONE CONTAINING NAPL IN THE FORMER SETTLING LAGOON AREA
AREA 2:
INTERMEDIATE ZONE IMMEDIATELY UNDERNEATH THE FORMER SETTLING LAGOON AREA
AREA 5:
SHALLOW SOILS IN THE VICINITY OF FORMER BORING C-5 AND WAB
FORMER SETTLING LAGOONS
WASTE ACCUMULATION BUILDING
SPILL AREA #5
SPILL AREA #1
(Located in OU-3)
AREA 7:
Extraction Well Piping
Former Wastewater Lines
SPILL AREA #2
SPILL AREA #6
Loading Pad
Overflow
SPILL AREA #3
AST Overflow
GW Plant
AREA 6:
DNAPL AREA
Near W-8, W-9
AREA 3:
INTERMEDIATE ZONE IMMEDIATELY UNDERNEATH THE FORMER AERATION LAGOON AREA
PROPERTY BOUNDARY
AREA 4:
NAPL-CONTAINING UNSATURATED AND SATURATED ZONE SOILS IN THE SOUTHWEST NAPL AREA
OAK GROVE ROAD
FORMER AERATION LAGOONS
-N-
0
100
Scale in Feet
LEGEND
APPROXIMATE BOUNDARY AND DESIGNATION OF FORMER LAGOONS
AREA OF POTENTIALLY RECOVERABLE DNAPL
AREAS WITH EVIDENCE OF RESIDUAL DNAPL
NOTE: Adapted from Figure 2,
Figure ID: 795187507,
Dated 4/17/06, ENVIRON International Corporation
NOTES:
SUPPLEMENTAL DNAPL DELINEATION BORINGS D3D3E THROUGH D3D3S CORRELATE TO FIELD DESIGNATIONS D1 THROUGH D15. THE D's HAVE BEEN D-AVOIDED FOR CONSISTENCY AND TO AVOID CONFUSION.
BASE MAP IS A COMBINATION OF ORIGINAL 11 CORPORATION BASE MAP, 1993-1997 AERIAL PHOTOGRAPHY AND DOAN EXHIBIT B-2 (3/25/96). THE POSITION AND ORIENTATION OF THE FORMER LAGOONS ARE BASED ON A 3/16/25 AERIAL PHOTOGRAPH


CEDAR SWAMP ROAD
TERMINAL BUILDING
OAK GROVE ROAD
GW Treatment Plant
AREA 1:
SATURATED SOILS IN THE SHALLOW ZONE CONTAINING NAPL IN THE FORMER SETTLING LAGOON AREA
AREA 2:
INTERMEDIATE ZONE IMMEDIATELY UNDERNEATH THE FORMER SETTLING LAGOON AREA
WASTE ACCUMULATION BUILDING:
UNSATURATED SOIL IN SHALLOW ZONE RELATED TO SP-2A, SP-2D, AND SP-2E FROM SPILL AREA 2
AREA 3:
INTERMEDIATE ZONE IMMEDIATELY UNDERNEATH THE FORMER AERATION LAGOON AREA
AREA 6:
NAPL-CONTAINING UNSATURATED AND SHALLOW SATURATED ZONE SOILS NEAR W-8, W-8
AREA 4:
NAPL-CONTAINING UNSATURATED AND SHALLOW SATURATED ZONE SOILS NEAR BORING 0303
N
LEGEND
AREAS 1 AND 2
AREA 3
AREA 4
AREA 6
AREA WITH EVIDENCE OF POTENTIALLY RECOVERABLE DNAPL
AREA WITH EVIDENCE OF RESIDUAL NAPL
WASTE ACCUMULATION BUILDING
50 0 50 100
SCALE: 1" = 100'

Feasibility Study

Remedial Action Objectives for OU2

- Reduce contaminant levels present in source areas of groundwater contamination to the maximum extent practicable
- Improve the efficiency and effectiveness of the OU1 groundwater pump and treat remedy

The OU2 remedial action would:

- Reduce contaminant levels and remove product in the unsaturated and saturated soils to the maximum extent practicable
- Support the OU1 remedial action objective of restoring groundwater to drinking water standards and shorten the time necessary to achieve the standards

Treatment Technologies Considered

- *In Situ* Thermal Treatment - Areas 1, 4, 6 and WAB
- Enhanced Bioremediation - Areas 1, 2, 3, 4, 6 and WAB
- *In Situ* Chemical Oxidation - Areas 1, 4, 6 and WAB
- NAPL Recovery - Areas 1, 6 and potentially 4
- Pump and Treat - Areas 2 and 3

Note that not all of the technologies above are capable of treating each source area alone; therefore, the remedial alternatives consist of a combination of these treatment technologies.

Remedial Alternatives Considered

Alternative 1 - No Action

- Present Net Worth: $0
- Timeframe: 0 yrs

Alternative 2A – NAPL Recovery Plus *in situ* Thermal Treatment with SVE in Areas 1, 4, 6 and WAB; and Pump and Treat in Areas 2 and 3

- Present Net Worth: $5,030,000
- Timeframe: 2 yrs plus 30 yrs for Pump and Treat

Remedial Alternatives Considered

Alternative 2B - NAPL Recovery Plus *in situ* Thermal Treatment with SVE in Areas 1, 4, 6 and WAB; and Enhanced Bioremediation in Areas 2 and 3

- Present Net Worth: $10,400,000
- Timeframe: 5 yrs

Alternative 3 – NAPL Recovery Plus *in situ* Chemical Oxidation in Areas 1, 4, 6 and WAB; and Pump and Treat in Areas 2 and 3

- Present Net Worth: $5,240,000
- Timeframe: 3 yrs plus 30 yrs for Pump and Treat

Remedial Alternatives Considered

Alternative 4A - NAPL Recovery Plus Enhanced Bioremediation in Areas 1, 2, 3, 4, 6 and WAB

- Present Net Worth: $ 12,300,000
- Timeframe: 5 yrs

Alternative 4B – NAPL Recovery Plus Enhanced Bioremediation in Areas 1, 4, 6 and WAB; and Pump and Treat in Areas 2 and 3

- Present Net Worth: $6,910,000
- Timeframe: 5 yrs plus 30 yrs for Pump and Treat

Nine Criteria for Remedy Evaluation

A: Threshold Criteria:

1) Overall Protection of Human Health and the Environment.
2) Compliance with State and Federal Regulations

B - Balancing Criteria:

3) Long Term Effectiveness and Permanence
4) Reduction of Toxicity, Mobility or Volume
5) Short-term Effectiveness
6) Implementability
7) Cost

C - Modifying Criteria:

8) Support Agency Concerns
9) Community Concerns

Alternative 2A is the Preferred Alternative

Alternative 2A Components

- NAPL Recovery in Areas 1, 6 and potentially Area 4
- *in situ* Thermal Treatment with SVE in Areas 1, 4, 6 and WAB
- Pump and Treat in Areas 2 and 3

Alternative 2A provides the best balance of the nine criteria

- Able to reduce toxicity, mobility, and volume of contaminants to a greater degree than the other alternatives
- Shortest timeframe for implementation
- Greatest degree of long-term effectiveness and permanence
- Most cost effective

Send Questions or Comments to:

Theresa Hwilka
(voice) 212-637-4409 (fax) 212-637-4429
hwilka.theresa@epa.gov

US EPA
290 Broadway, 19th Floor
New York, NY 10007

By August 5, 2009

Chemical Leaman Tank Lines Superfund Site Information Webpage
http://www.epa.gov/region2/superfund/npl/chemicalleaman/